Land Use and Transportation

PRELIMINARY DRAFT FOR DISCUSSION ONLY

This preliminary draft discussion paper is a work product developed by the consulting team for review and discussion by the Blue Ribbon Commission on Transportation. The contents are intended to provide the Commission members with factual background information and a balanced set of policy alternatives, including the pros and cons of these alternatives. This paper is one of a series and should be reviewed in the context of the entire series that, when taken together, presents a comprehensive overview of the state's transportation system.

This discussion paper has been prepared primarily for Blue Ribbon Commission members new to these issues who wish to engage in a fundamental debate and for a more general audience of interested citizens who may wish to comment on the Commission's deliberations. This paper is intended to be provocative and to stimulate discussion of issues and options in this state. It questions the current ways of doing business, not for the sake of finding fault, but to allow consideration of other potential ways of thinking about transportation issues that might be appropriate in the future.

PROBLEM STATEMENT AND OVERVIEW

Transportation systems and land use patterns guide and influence each other. Roads, transit, and other transportation elements shape our pattern of land development. In turn, the distribution and types of land uses affect travel patterns and transportation facilities. This paper provides background on recent efforts at the regional, state, and federal levels to improve the linkage between land use patterns and the transportation system. It considers transportation and land use planning issues at the regional level, including existing challenges and potential improvements. Next, the paper describes conventional suburban development patterns as well as emerging alternatives and the benefits they may confer. It discusses ways to help foster new patterns of development that better connect land use and transportation systems as well as obstacles to these potential changes.

Suburban-style, low-density land uses – with residential, commercial, and office areas widely separated – rely almost exclusively on motor vehicles for transportation. Suburbs have emerged as locations not only for housing but also for employment, replacing the traditional model of a suburb-to-central-city commute with a suburb-to-suburb travel pattern. This dispersed pattern of multiple activity centers and relatively low densities is difficult for transit to serve, and it increases reliance on the personal auto as the primary mode of transportation. In contrast, denser urban centers can combine different land uses in closer proximity, facilitating walking, biking, and other forms of transportation instead of the car. Such mixed-use neighborhoods place daily

needs within walking distance and can provide the ridership base that increases use of public transit.

Since transportation and land use each influence the other, decisionmakers should not consider either issue in a vacuum. Accordingly, observers of the system have argued that we cannot solve our transportation problems without addressing land use concerns at the same time. Indeed, Washington State legislators sought to recognize this policy link in enacting the Growth Management Act nearly a decade ago. Despite these efforts, however, transportation and land use decisions and policies are not always linked as effectively as they could be. This discontinuity creates or exacerbates transportation problems at both the local and regional levels. As this paper discusses, experts in land use and transportation issues have proposed a variety of options for strengthening the link between land use and transportation policies and for using land use policies to make transportation improvements. Such ideas range from relatively unrestrictive proposals to significant changes in our current pattern of growth, transportation, and land use development.

CURRENT AND PAST EFFORTS TO IMPROVE THE CONNECTION BETWEEN TRANSPORTATION AND LAND USE

WASHINGTON'S GROWTH MANAGEMENT ACT

In 1990, the Washington State Legislature enacted the landmark Growth Management Act (GMA) to address the negative consequences of population growth and urban sprawl in the state. The act requires counties to work with cities to develop countywide planning policies for designating urban growth areas, contiguous development and urban services, siting major public capital facilities, transportation strategies and facilities, affordable housing, joint planning, and economic development and employment. The law recognizes and reinforces the link between land use planning and transportation planning.

In densely populated and fast-growing counties, GMA requires local governments to prepare and adopt comprehensive plans for long-term development. In addition, 11 other counties agreed to "opt in" to the requirements of GMA, for a total of 29 counties that plan "fully" under the Growth Management Act. For counties that are planning fully under GMA, the state provides technical assistance and some funds for planning. The act requires the ten remaining counties to plan only for critical areas and natural resources lands.

Each comprehensive plan must contain a transportation element identifying the facilities or services needed to meet current and future demands on transportation systems. In addition, the plans also must include land use, housing, capital facilities, and utilities elements. The transportation element must be consistent with the land use elements of the comprehensive plan, as all elements of the plan must be internally consistent. Development regulations must be consistent with adopted comprehensive plans, and the plans of adjacent jurisdictions also must be consistent.

GMA requires that local jurisdictions prohibit development that would cause the level of service on a local transportation facility to decline below the standards adopted in the transportation element of the comprehensive plan. However, local governments can approve such projects if transportation improvements, or strategies to accommodate the development impacts, occur concurrently with the development itself. This provision is known as GMA's "concurrency" requirement, and it is sometimes described as a "pay as you grow" principle. The concurrency

requirement links land use and transportation plans by requiring that roads and other public services will be sufficient to support new development.

Local development regulations must include a concurrency ordinance requiring that adequate public facilities will be in place to serve new development. In practice, however, many areas lack the facilities to support existing developments adequately; King County, for example, contains 68 zones that are out of compliance with present concurrency standards. GMA also authorizes local jurisdictions to collect impact fees from developers to help finance the public facilities needed to support new projects; governments can impose such fees as a condition of their approval to proceed with development.

REGIONAL TRANSPORTATION PLANNING

In Washington state, transportation planning occurs at the regional level through Metropolitan Planning Organizations and Regional Transportation Planning Organizations. In 1973, the U.S. Congress passed highway legislation requiring urbanized areas with populations greater than 50,000 to designate Metropolitan Planning Organizations, consisting of local elected officials from the region, as a stipulation for federal funding. To obtain federal funds, state and local transportation agencies had to receive approval from MPOs for transportation projects. The MPO process also integrated planning for highway and transit projects for the first time. Washington state contains eight Metropolitan Planning Organizations, as detailed below in Table 1; these MPOs also serve as Regional Transportation Planning Organizations under state law, as discussed below.

Authorized with the passage of the Growth Management Act in 1990, the regional transportation planning program created Regional Transportation Planning Organizations as a formal mechanism for cities, counties, and the state to coordinate transportation planning at the regional level. Washington has 14 RTPOs, covering all 39 counties except San Juan. For example, the Spokane Regional Transportation Council is the RTPO for Whitman and Spokane counties, and it also serves as the Metropolitan Planning Organization for the Spokane region under federal law

RTPOs are required to develop regional transportation plans and six-year regional Transportation Improvement Programs, which include transit, bicycle, and pedestrian needs in addition to roads. They also certify that the comprehensive plans of local jurisdictions are consistent with regional plans and with the requirements of GMA. The RTPO process is designed to foster ongoing, coordinated transportation planning among jurisdictions to ensure that local transportation plans, countywide planning policies, and the regional plan are consistent. The regional transportation plan is intended to establish a regional approach to capital investments, service improvements, and transportation demand management measures and to develop a list of priority projects for the region.

Table 1. Metropolitan Planning Organizations and Regional Transportation Planning Organizations in Washington

| MPO / RTPO | Major Cities (for MPOs) | Counties (for RTPOs) | | | | |
|--|-----------------------------------|---|--|--|--|--|
| Metropolitan Planning Organizations (MPOs also serve as RTPOs for their regions) | | | | | | |
| Benton-Franklin Council of Governments | Kennewick, Pasco, Richland | Benton, Franklin, and Walla Walla | | | | |
| Cowlitz-Wahkiakum Council of Governments | Kelso, Longview (and Rainier, OR) | Cowlitz, Grays Harbor, Lewis, Pacific, Wahkiakum | | | | |
| Puget Sound Regional Council | Bremerton, Seattle, Tacoma | King, Kitsap, Pierce, Snohomish | | | | |
| Southwest Washington Regional Transportation Council | Vancouver, WA (and Portland, OR) | Clark, Klickitat, Skamania | | | | |
| Spokane Regional Transportation Council | Spokane | Spokane, Whitman | | | | |
| Thurston Regional Planning Council | Olympia | Thurston | | | | |
| Whatcom County Council of Governments | Bellingham | Whatcom | | | | |
| Yakima Valley Conference of Governments | Yakima | Yakima | | | | |
| Regional Transportation Planning Organizations | | | | | | |
| North Central RTPO | _ | Chelan, Douglas, Okanogan | | | | |
| Northeast Washington (NEW) RTPO | _ | Ferry, Pend Oreille, Stevens | | | | |
| Palouse RTPO | _ | Asotin, Columbia, Garfield | | | | |
| Peninsula RTPO | _ | Clallam, Jefferson, Kitsap, Mason | | | | |
| Quad-County RTPO | _ | Adams, Grant, Kittitas, Lincoln | | | | |
| Skagit/Island RTPO | _ | Island, Skagit | | | | |

FEDERAL TRANSPORTATION LEGISLATION

In 1991, the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) represented a significant change in federal transportation policy. After decades of transportation funding bills focused on interstate highway construction, ISTEA shifted the focus of transportation investments to include preservation of existing transportation infrastructure, increased system efficiencies to improve the movement of people and goods, and strategic investments to maintain and promote economic development. The bill increased spending for transit, ferries, rail, bicycles, and pedestrian infrastructure and shifted the balance in funding among various modes of transportation.

ISTEA also recognized the connection between transportation and land use. Through the Metropolitan Planning Organizations that allocate ISTEA funding, federal transportation dollars can help finance changes to local land use plans to make them better integrated with transportation. In 1998, the Transportation Efficiency Act for the 21st Century (TEA-21) reauthorized the ISTEA programs for another six years, preserving its emphasis on creating flexibility to fund transportation efforts that meet local and regional goals.

TEA-21 also established a new grant program called Transportation and Community and System Preservation, which provides funds that local jurisdictions can use to fight sprawl in their areas. Communities can use TCSP funds, known as "Smart Growth" grants, to address interrelated problems involving transportation, land development, environmental protection, public safety, and economic development. The grants cover efforts to coordinate transportation and land use

planning; reduce environmental impacts; and ensure efficient access to jobs, services, and trade centers.

PROPOSED SOLUTIONS TO IMPROVE INTEGRATION OF LAND USE AND TRANSPORTATION

This paper reviews two general approaches to improving the integration of land use and transportation policy. First, we discuss efforts to grant new powers to regional agencies to enable them to better coordinate, fund, and enforce land use and transportation policies. Second, we examine a group of mutually supporting polices known as "Smart Growth" Initiatives. The following matrix, Table 2, summarizes the proposed policies and how they perform on evaluative criteria selected by the Investment Strategies Committee.

Table 2: Evaluation of Proposed Solutions to Improve Integration of Land Use and Transportation

| Policy | Solves the Problem | Cost-Effective | Administrative Feasibility | Political Feasibility |
|--|---|---|--|--|
| Strengthened Regional Government with Responsibilities for Land Use and Transportation | Yes, as long the regional government does the job it is intended to do. | Depends on the policies the regional government enacts. | Would require changes in existing laws. | Stronger regional government has worked in a few other areas such as Portland, OR and Vancouver, WA, but local governments often do not want to relinquish local control. |
| "Smart Growth" Initiatives - Zoning changes, design standards - POD/TOD projects - Sidewalks, improved pedestrian amenities - Grid street pattern, traffic calming measures - Developer incentives, expedited review - Transfer of development rights (TDR) programs | Taken together, a package of various measures could help create communities that reduce auto trips. The extent of market demand for this type of development remains uncertain. Recent compact developments have succeeded but low-density suburban development is still predominant. | Some research shows that dispersed, suburban development is more costly to cities (in terms of providing public services) than compact growth and infill development. Further study is needed of the costs and efficacy of promoting this | Local governments generally have the control of land use (zoning) and transportation decisions necessary to promote this form of development. However, additional funds or other incentives may be necessary to encourage developers to construct such projects. Also, governments throughout the region need to coordinate on implementing "smart | The "Smart Growth" idea is currently popular, at least in the abstract. Density increases (upzoning) and infill development may encounter NIMBY opposition once specific locations are selected. Policies that would raise taxes or require significant changes in current suburban lifestyles are likely to face strong opposition. |
| - Other efforts to foster compact growth | | type of development. | growth" policies. | |

Source: Evaluation by ECONorthwest

PROPOSED SOLUTION: STRENGTHEN POWERS OF REGIONAL AGENCIES

More than 468 governmental entities have authority for transportation planning, funding, management, and construction in Washington State. In addition, 279 cities and towns, 39 counties, eight metropolitan planning organizations, and other government bodies have responsibility for approving land use permits and for adopting and reviewing land use plans.

Local jurisdictions are responsible for constructing, managing, and maintaining the streets, bridges, bicycle lanes, and pedestrian paths within their jurisdictions. Cities and towns are responsible for 13,130 miles of streets and 657 bridges in the 279 incorporated municipalities of Washington state. The 39 counties are responsible for 41,352 miles of county roads and 3,570 county bridges in the unincorporated areas of the state. These cities, towns, and counties also have authority to administer and review local land use plans, development regulations, permits for new projects, zoning ordinances, comprehensive plans, and requirements of the Growth Management Act.

In the decade before the 1990 passage of the Growth Management Act, much development occurred in unincorporated areas that lacked adequate public facilities. The adoption of GMA linked regional transportation plans with 20-year plans for land use and growth management. The new plans identified areas for concentrating development, considered linkages of transportation modes, and identified ways to improve the efficiency of the transportation system.

To be effective, efforts to integrate land use and transportation and to manage growth require regional cooperation and enforcement. If one suburb acts alone in seeking to constrain or modify new construction, developers can move to a nearby jurisdiction with fewer restrictions on growth. Playing one community off another can result in local governments lowering their standards in an effort to attract developers. As experience has shown, regional plans will not be effective unless local governments – and citizens – agree on a common vision.

Regional planning efforts also need to have "teeth," or provisions for enforcement. A recent examination of various regional governing entities classified such bodies into four categories, in order of increasing authority: ad hoc, advisory, supervisory, and authoritative. For example, the Metropolitan Council of Minneapolis-St. Paul and Metro, the Portland metropolitan area's regional government, are considered "authoritative" regional bodies, which provide public services or have direct control of regional infrastructure systems. Portland's Metro is also the nation's only directly elected regional government. Several years ago, local governments in the Portland area approached Metro and asked the regional body to develop a growth management plan that would be legally binding on the local governments. Metro's resulting plan gave local governments two years to accept the regional 20-year growth targets and to change their local land use and transportation codes to be consistent with the regional plan.

Most RTPOs and MPOs in Washington focus only on transportation issues, but the Puget Sound Regional Council also covers growth management, economic, and land use issues. PSRC is considered a "supervisory" body, and it bears more authority than most regional planning bodies in the U.S. The council has significant authority to develop regional plans, review local plans, and ensure compliance with GMA. Its Vision 2020 plan designated urban growth areas and helped establish an urban growth boundary in the region. Though PSRC distributes federal funding (and can withhold monies from nonconforming local governments), the agency does not allocate regional or state revenues. Compared to other regional bodies in the United States,

PSRC is relatively powerful, though it lacks the authority of two nearby regional governments, Portland's Metro and the Greater Vancouver Regional District in British Columbia.

In areas with multiple jurisdictions, problems sometimes emerge with poorly integrated land use and transportation plans. Transportation corridor planning across various cities and towns poses challenges. For example, transportation facilities that cross city and county lines often lack coordinated authority for planning, construction, and maintenance. Cooperative planning partnerships among local jurisdictions can help address problems like this one, and county governments can work with cities to coordinate improvements to major roads.

At times, state initiatives conflict with local and regional plans for transportation and land use. For example, supporters of local growth management plans question why the Washington State Department of Transportation is conducting its East King County Corridor Needs Study, also known as I-605. This proposed outer-ring freeway would travel north-south between I-405 and the Cascade Foothills. Located outside the adopted urban growth boundary, the proposed facility would conflict directly with the region's Vision 2020 growth management plan. Integrating land use and transportation plans at all levels of government could help improve the use of the existing transportation system and prevent future land use and transportation conflicts.

PROPOSED SOLUTION: PROMOTE "SMART GROWTH"

CONVENTIONAL DEVELOPMENT PATTERNS

Community development codes usually include neighborhood street layout and design standards. Many of the existing codes were designed to provide transportation facilities appropriate for the post-war era's conventional patterns of suburban development. These development patterns typically segregate various land uses, such as residential, office, and retail, and they assume that all households will have one or more vehicles. Residents will use these cars for all travel except short trips to close neighbors.

Accordingly, the layout of streets features little connectivity in order to funnel traffic onto major arterials, and the roads themselves are designed to facilitate rapid movement of vehicles. Typically, streets are wide, with multiple lanes of traffic, and often lack sidewalks, especially in residential areas. In commercial areas that do have sidewalks, large parking lots often separate the sidewalk from retail establishments, and cars entering the parking lots raise safety concerns for pedestrians. Residential streets usually feature gradual curves, facilitating higher speeds, and they typically end in cul-de-sacs, which minimizes through-traffic but also reduces opportunities for drivers to select alternate routes.

NEW DEVELOPMENT PATTERNS

An emerging trend in planning and urban design focuses on changing the conventional suburban pattern of roads and land uses. Some of these new planning models are known as New Urbanism, traditional neighborhood development, pedestrian-oriented development, transit-oriented development, neo-traditional neighborhood design, and Smart Growth. Though practitioners note distinctions among these terms, this paper considers these models together under the name "Smart Growth." In contrast to conventional developments, such designs display a different pattern of roads and land uses. In place of the conventional mode of suburban development described above, this alternative includes an integration of different land uses in closer proximity.

With frequently used services like grocery stores, banks, dry cleaners, coffee shops, and restaurants located in closer proximity to homes, offices, and each other, mixed-use developments are intended to reduce the need for car travel for everyday activities, or at least to make car trips shorter. Smart Growth incorporates this model of compact, mixed-use, pedestrian-friendly land use and transportation patterns by promoting higher densities with a mix of land uses; revitalizing cities and older suburbs with new growth; and protecting open space, farms, and sensitive environments. Providing roads, water lines, and other public infrastructure and services to these more compact communities can also be less costly to local governments.

To make these communities more pedestrian-friendly, streets are designed for more than just cars. Accordingly, they have sidewalks and often feature additional pedestrian amenities such as benches, street trees or planters (which also help separate the sidewalk from the street), information kiosks, pedestrian-scale street lighting, transit shelters, sidewalk bulbs at crosswalks, public art, and weather protection. Instead of blank walls and large parking lots, successful walkable communities typically feature active stores, restaurants, coffee shops, and other community gathering places on the ground floor of buildings. Such establishments help provide the "eyes on the street" that make the area feel safe and inviting for pedestrians.

In this type of land use design, the street network is highly interconnected and features small blocks. It often follows a grid pattern of regularly spaced streets, though the pattern need not be rigid. The many roads and intersections allow choices among a number of alternative routes from origin to destination and can help disperse traffic. Roads are typically narrower and feature geometries designed to encourage slower speeds; they may also include designated bike lanes. "Traffic calming" devices, such as traffic circles or speed tables, can be used to retrofit existing streets, but these physical modifications may not be necessary if new streets are appropriately designed.

On-street parking can also provide a buffer between moving vehicles and pedestrians on the sidewalk, and it can moderate traffic speeds. In commercial centers, alleys allow access to additional parking behind buildings and for deliveries and utilities. Alleys and on-street parking can also change the face of residential areas. Houses built closer to the sidewalk and street, with porches instead of garages in front (and alley access to rear garages), help facilitate social interaction and make a neighborhood more pedestrian friendly. According to Tom Philips' presentation to the Investment Strategies Committee, planning roads with more outlets, building alleys, and creating mixed-use buildings can decrease the number of auto trips per day by 30 percent.

POLICIES TO PROMOTE SMART GROWTH

Land Use and Design Policies

Fostering these changes in conventional land use and transportation patterns often involves policy changes at the local government level to encourage or require these types of developments. Such policies can include changes in zoning codes to allow mixed-use developments, rather than requiring separation of different land uses. Ordinances and design guidelines can govern setback requirements (allowing buildings closer to the street); sidewalks and pedestrian amenities; and building size, height, and orientation (such as requiring a pedestrian-oriented entrance or prohibiting blank walls along the sidewalk). Municipalities can also provide incentives, such as bonuses that allow developers to exceed zoned densities if they include ground-floor retail spaces in their residential or office designs. Transfer of development rights (TDR) programs can increase density in targeted growth areas, while protecting open

space or farmland in areas outside urban centers. Under the state's first TDR program, the Denny Triangle neighborhood near downtown Seattle has agreed to accept increased densities transferred from parcels in rural King County.

Parking Requirements

Parking rules have a significant effect on land uses, and cities can alter parking minimums, maximums, location requirements (e.g., behind or beside the building instead of in front), and types (e.g., parking structures instead of surface lots). For example, many cities require developers to include a minimum number of parking spaces in their projects, based on square footage or number of residents or employees. In areas with sufficient transit services, buildings may need less parking or no parking, which also promotes increased transit ridership. Planners seeking to promote transit-oriented development typically focus their efforts on the area within a quarter-mile of the transit station, a typical five-minute walk.

Comprehensive Planning

Local comprehensive plans identifying places slated for higher-density new or infill development (urban or suburban centers), as well as areas preserved as open space, can help guide development to designated locations. Design review panels can help ensure that new developments fit the overall community vision, but the review should offer advantages for developers and not simply add an additional layer to the permitting process. Local governments can also offer expedited permitting as way to encourage projects that meet specified criteria. Local plans for land use and transportation that are consistent with each other and with regional plans, as the Growth Management Act requires, can help guide appropriate development.

In June 1998, for example, King County County Executive Ron Sims introduced his SmartGrowth Initiative, "Shaping Tomorrow," which calls for containing urban sprawl and reinvesting in existing urban areas. The plan devotes funds to improving infrastructure, such as fixing roads and building sidewalks, in already-developed areas to help them attract and support new growth. The initiative is designed to foster growth in existing communities inside the urban growth boundary, while protecting rural areas from new development.

OVERCOMING CHALLENGES

Neighborhood Opinions

Although many organizations, including the National Association of Home Builders, are joining the Smart Growth bandwagon, implementing such changes in land use and transportation systems poses significant challenges. Ideas that sound appealing in the abstract may become less desirable when applied to a specific site. For example, opposition may emerge in existing neighborhoods slated to receive increased densities, and adjacent areas may protest new projects in nearby greenfields. Such sentiments or "no growth" views may simply perpetuate sprawl in other areas, as developers follow the path of least resistance: to outlying areas with few residents or neighbors to protest. Examples of attractive mixed-use communities may help the public regard such projects more favorably in the future.

Project Experience

Another obstacle to fostering mixed-use and higher-density communities is that few developers have significant experience with such projects to date. Accordingly, they may have realistic concerns about the market demand for these projects, and financial institutions may share these concerns. Critics argue that people have been expressing their preferences for housing in low-

density, auto-oriented, suburban subdivisions for decades. Smart growth advocates argue, however, that consumers generally have had few housing options and that many do prefer pedestrian friendly, neotraditional designs when offered a choice. Of course, such projects will not meet everyone's needs, but increasing their availability can make a difference at the local level.

Financing Methods

Projects that do not fit the conventional model of suburban design may have more difficulty attracting the private financing necessary to make them feasible. This situation is beginning to change as developers, banks, researchers, and planners have had more opportunity to evaluate those projects implemented to date. Additionally, developers and planners have had the opportunity to draw from the experience of some early projects that did not perform up to expectations; they are learning more about how to make these new developments attractive to homebuyers and businesses. By creating 24-hour communities with around-the-clock activity, mixed-use developments have the potential to be more profitable for businesses than conventional suburban developments that empty after the workday ends.

In some cases, public funding may be available to help finance smart growth projects, especially in proximity to transit (such as King County Metro's pilot projects to build housing at several park-and-ride lots) or in older inner-city communities. Financing infill development in cities may be a way for banks to meet their obligations under the federal Community Reinvestment Act. A pilot program, known as location efficient mortgages (LEMs), can also make transit-oriented developments more attractive and accessible to buyers. LEMs increase the loan amount that buyers can obtain in transit-accessible areas, based on the savings they achieve from using public transportation and local services instead of owning a car. Sponsored by the federal government and several private foundations, the LEM pilot program is under development in three cities, including Seattle.

Uncertainty

Though higher-density and mixed-use projects are designed to decrease reliance on automobile travel and reduce trip generation, further study is needed regarding the effects of such development on road congestion. If the automobile still accounts for the majority of trips in these areas, placing homes, offices, and businesses in closer proximity could increase local congestion, even if the auto comprises a smaller share of household trips. However, providing alternatives to car travel and designing a road network that increases route options and disperses trips may help reduce vehicle miles traveled and prevent worsening congestion at the local and regional level.

Choices

Building residential units at higher densities can also help provide more affordable housing, a critical issue in many parts of the Puget Sound region. Such projects can provide a mix of housing sizes and types, and they provide more choices for homebuyers and renters. Senior citizens, couples without children, and young professionals may find the proximity to retail and services that these developments offer especially convenient. Well-designed neighborhoods can offer an enhanced sense of community to everyone, while reducing reliance on the automobile.

CONCLUSION

Transportation investments have a significant influence on surrounding land uses, and land use patterns also affect the utilization of transportation facilities. These interrelated effects will occur regardless of whether planners consider land use in determining their transportation investments and vice versa. Accordingly, the effects can be unintended, or governments, developers, and citizens can work together to design integrated land use and transportation plans that will help achieve a shared vision for the future. Integrating land use and transportation more effectively can help shape our priorities for transportation investments and ensure that new transportation projects and land use plans support and reinforce each other.

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